DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	PEQUAWKET POND, UPPER	Lake Area (ha):	5.75
Town:	MADISON	Maximum depth (m):	3.3
County:	Carroll	Mean depth (m):	1.9
River Basin:	Saco	Volume (m^3):	108500
Latitude:	43°57'15" N	Relative depth:	1.2
Longitude:	71°09'13" W	Shore configuration:	2.12
Elevation (ft):	459	Areal water load (m/yr):	500.0
Shore length (m):	1800	Flushing rate (yr^{-1}):	265.0
Watershed area (ha):	4921.0		
% watershed ponded:	3.8	Lake type:	natural

BIOLOGICAL:		6 January 1993	27 August 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	MOUGEOTIA 45%	DINOBRYON 70%
	#2	MELOSIRA 15%	
	#3	TABELLARIA 15%	
PHYTOPLANKTON ABUNDANCE (cells/mL)			410
CHLOROPHYLL-A (µg/L)			5.28
DOM. ZOOPLANKTON (% TOTAL)	#1	NO ZOOPLANKTON OBSERVED	KELLICOTTIA 51%
	#2		NAUPLIUS LARVA 29%
	#3		CYCLOPOID COPEPODS 12%
ROTIFERS/LITER		<1	133
MICROCRUSTACEA/LITER		<1	100
ZOOPLANKTON ABUNDANCE (#/L)		<1	235
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			3.3 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		12.7	5.5
BACTERIA (E. coli, #/100 ml)	#1		40
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : None

CHEMICAL: **Lake: PEQUAWKET POND, UPPER**
Town: MADISON

	6 January 1993		27 August 1992		
DEPTH (m)	1.5		1.0		2.5
pH (units)	6.2		6.5		6.5
A.N.C. (Alkalinity)	5.3		7.6		8.8
NITRATE NITROGEN	0.04		< 0.02		< 0.02
TOTAL KJELDAHL NITROGEN	< 0.10		0.16		0.18
TOTAL PHOSPHORUS	0.007		0.008		0.009
CONDUCTIVITY (μmhos/cm)	47.8		48.2		51.7
APPARENT COLOR (cpu)	23		29		27
MAGNESIUM			0.42		
CALCIUM			3.1		
SODIUM			5.0		
POTASSIUM			0.66		
CHLORIDE	8		7		7
SULFATE	3		2		2
TN : TP			20		20
CALCITE SATURATION INDEX			3.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	6	1	9	Meso.

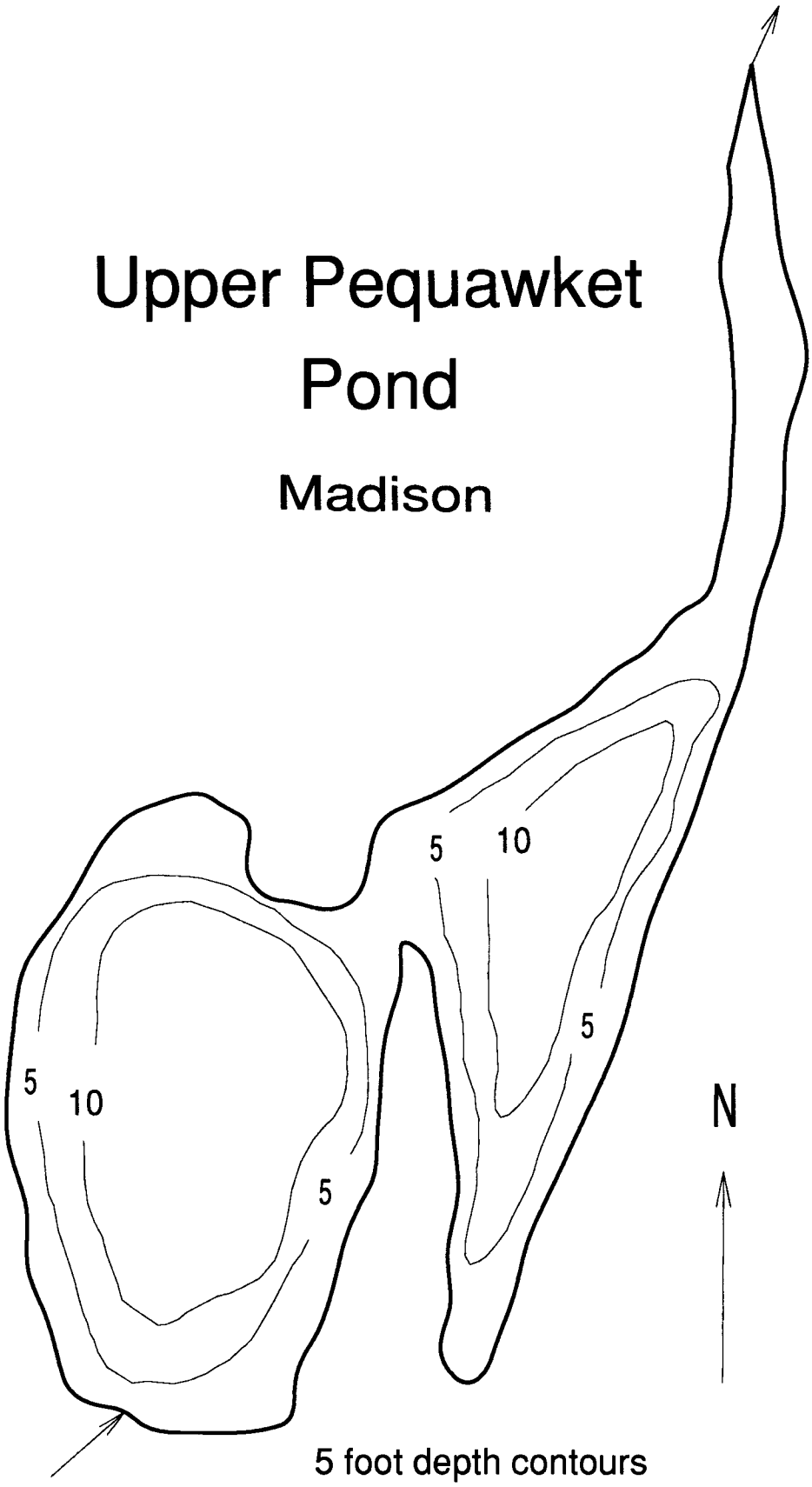
COMMENTS:

1. Depth soundings were taken by weight and chain -- the abundant plant growth interfered with fathometer use.

2. Cold bottom muds and small dirt areas barren of plant growth suggest the presence of bottom springs.

3. Abandoned railroad tracks passed along the western edge of the pond, with gravel pits on the other side of the tracks.

4. Dominant wholewater phytoplankton genera were Cryptomonas (20%) and tiny green flagellates (15%). Dominant classes were cryptomonads (30%) and greens (25%).


Upper Pequawket
Pond
Madison
5
10
5
5
10
5
N
5 foot depth contours
0
0.1
Km

III-220

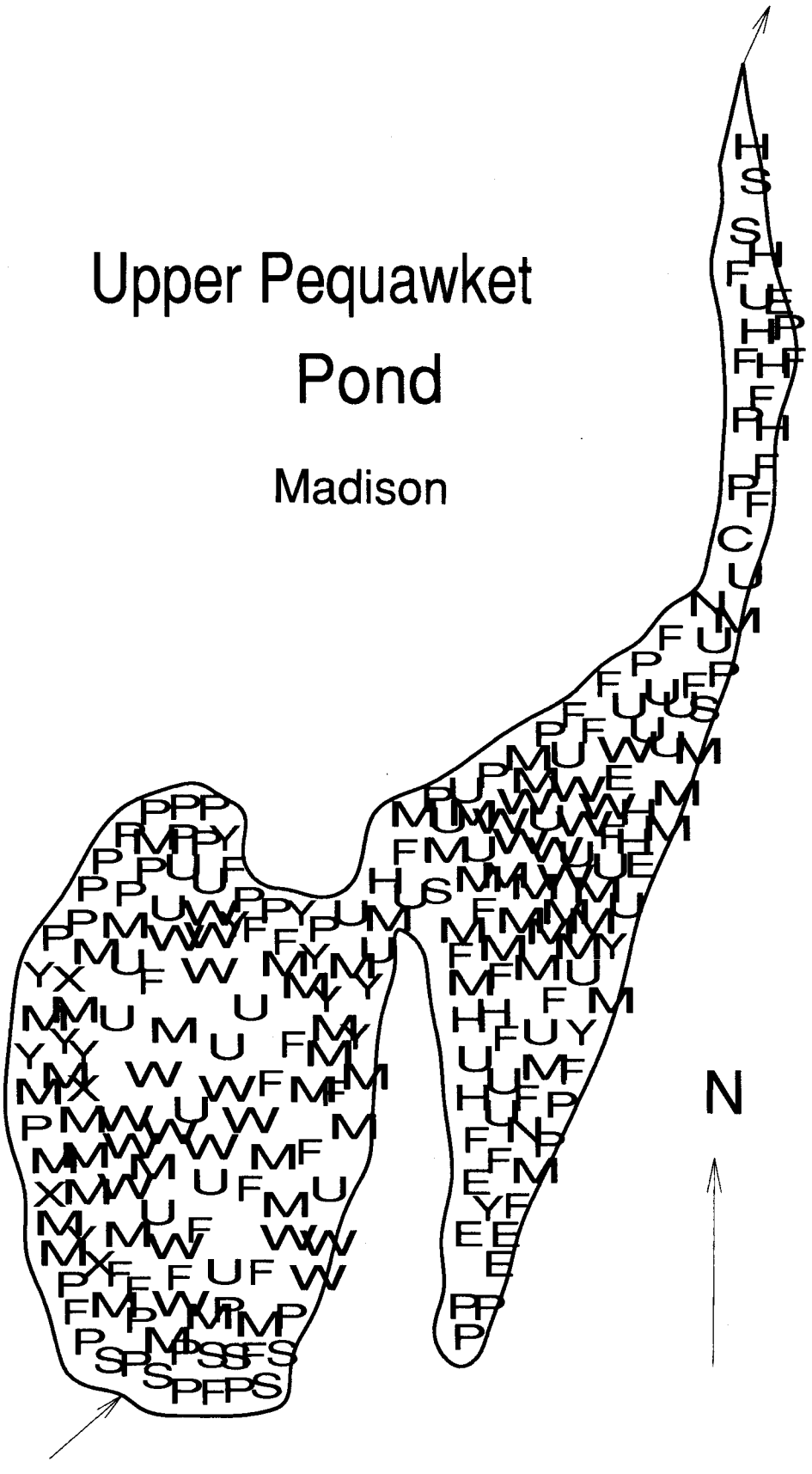
FIELD DATA SHEET

LAKE: PEQUAWKET POND, UPPER TOWN: MADISON
DATE: 08/27/92 WEATHER: OVERCAST, WARM, CALM

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.5	8.5	96 %
	1.0	21.0	8.5	94 %
	2.0	16.0	8.8	88 %
	3.0	12.0	5.5	50 %

SECCHI DISK (m): 3.3 VOB COMMENTS:
BOTTOM DEPTH (m): 3.3
TIME: 1130

*Dissolved oxygen values are in mg/L


Upper Pequawket
Pond
Madison
N
0
0.1
Km

AQUATIC PLANT SURVEY

LAKE: PEQUAWKET POND, UPPER TOWN: MADISON DATE: 08/27/92

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
F	Nymphoides cordatum	Floating heart	Common
U	Utricularia	Bladderwort	Very abundant
M	Proserpinaca	Mermaid weed	Very abundant
Y	Nuphar	Yellow water lily	Common
N	Nymphaea	White water lily	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
X		Bottom growth	Very abundant
H	Hypericum boreale f. callitric	St. John's-wort	Scattered
S	Sparganium	Bur reed	Scattered
E	Eriocaulon septangulare	Pipewort	Sparse
C	Cyperaceae	non-flowering sedge	Sparse
W	Potamogeton	Pondweed	Common

OVERALL ABUNDANCE: Very abundant

GENERAL OBSERVATIONS:

1. Plants were very abundant, but there was open water in the two sections with 10-foot depth contours; many of the plants depicted were submerged. Plants were dense in the outlet channel, interfering with navigation.

2. Wetlands were present around the inlet area at the southern end of the pond.